

**ABSTRACT**

Synthesizing a set of digital speech samples corresponding to a selected voicing state includes dividing speech model parameters into frames, with a frame of speech model parameters including pitch information, voicing information determining the voicing state in 5 one or more frequency regions, and spectral information. First and second digital filters are computed using, respectively, first and second frames of speech model parameters, with the frequency responses of the digital filters corresponding to the spectral information in frequency regions for which the voicing state equals the selected voicing state. A set of pulse locations are determined, and sets of first and second signal samples are produced using the 10 pulse locations and, respectively, the first and second digital filters. Finally, the sets of first and second signal samples are combined to produce a set of digital speech samples corresponding to the selected voicing state.